

K032418

SEP 11 2003

**Summary of Safety and Effectiveness**

**Contact Person:** Denise Duchene  
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Howmedica Osteonics Corp.  
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Allendale, NJ 07401  
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**Date:** July 14, 2003

**Device:** Duracon® Total Knee System

**Classification:** Knee Joint; Patellofemorotibial; Metal/polymer; Porous-coated;  
Uncemented prosthesis - Class II - 21 CFR 888.3565

**Predicate Devices:** Duracon® Total Knee System

**Indications for Use:** The Duracon® Total Knee System components are for use in total knee arthroplasty to relieve pain and restore knee function for indications such as: noninflammatory degenerative joint disease including osteoarthritis, traumatic arthritis or avascular necrosis; rheumatoid arthritis; correction of functional deformity; revision procedures where other treatments or devices have failed; post traumatic loss of joint anatomy, particularly when there is patellofemoral erosion, dysfunction or prior patellectomy; and, irreparable fracture of the knee.

These products are intended to achieve fixation without the use of bone cement

**Proposed Modification:** To add a Peri-Apatite coating and allow for use without bone cement.

**Device Description:** The device includes femoral, tibial and patellar components of a total knee system. These components are used for the replacement of the bearing and/or articulating surfaces of the distal femur, proximal tibia and patella to relieve pain, instability and the restriction of motion due to degenerative bone disease, including osteoarthritis, rheumatoid arthritis, failure of other devices or trauma.

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**Summary of Data:**

A risk analysis and research and development testing have been performed to demonstrate equivalence of the proposed products to the predicate devices. The testing includes porous coating characterization, baseplate fatigue testing, contact area / stress analyses; range of motion range of constraint testing; locking mechanism testing; UHMWPe material properties in accordance with the Class II Special Controls Guidance Document: Knee Joint Patellofemoral and Femoral Tibial Metal/Polymer Porous-Coated Uncemented Prostheses; Guidance for Industry and FDA," dated January 16, 2003. The testing also includes safety testing for the Peri-Apatite coating. The results demonstrate that the Duracon Total Knee System with Peri-Apatite coating is safe and effective for total knee replacement without bone cement.



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Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Ms. Denise Duchene  
Senior Regulatory Affairs Specialist  
Howmedica Osteonics Corp.  
59 Route 17  
Allendale, NJ 07401

Re: K032418

Trade/Device Name: Duracon<sup>®</sup> Total Knee System with Peri-Apatite Coating  
Regulation Number: 21 CFR 888.3565  
Regulation Name: Knee joint patellofemorotibial metal/polymer porous-coated uncemented prosthesis.  
Product Code: MBH  
Dated: August 4, 2003  
Received: August 5, 2003

Dear Ms. Duchene:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

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This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (301) 594-4659. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,



*for* Celia M. Witten, Ph.D., M.D.  
Director  
Division of General, Restorative  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

510(k) Number (if known): K032418

Device Name: Duracon® Total Knee System with Peri-Apatite Coating

Indications for Use:

The Duracon® Total Knee System components included in this submission are intended for use in total knee arthroplasty to relieve pain and restore knee functions for indications such as:

- Noninflammatory degenerative joint disease including osteoarthritis, traumatic arthritis or avascular necrosis;
- Rheumatoid arthritis;
- Correction of functional deformity;
- Revision procedures where other treatments or devices have failed;
- Post traumatic loss of joint anatomy, particularly when there is patello-femoral erosion, dysfunction or prior patellectomy; and,
- Irreparable fracture of the knee.

These products are intended to achieve fixation without the use of bone cement.

(PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON ANOTHER PAGE IF NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use \_\_\_\_\_ OR \_\_\_\_\_ Over-the-Counter Use \_\_\_\_\_  
(Per 21 CFR 801.109)

Miriam C. Provost  
(Division Sign-Off)  
Division of General, Restorative  
and Neurological Devices

510(k) Number K032418